

History of Wooden Water Pipe.

The majority of men would say off-hand that wooden water pipe was all right for a makeshift. One is inclined to think of it as being a short-lived expedient. The California Redwood Pipe Company, of San Francisco, have published a brief biography of wooden pipe. This company asserts that almost any kind of wood, if kept wet, is durable for piping.

The use of wooden water pipe began very early and we find its history written in the first records of dawning civilization. The later story of human progress contains frequent reference to its use. It is our intention here to refer to these matters in the briefest way and with the especial purpose of impressing the fact of the great durability of wood when used for conveying water.

Wooden water pipe in the form of bored-out logs was in use in Egypt thousands of years ago. Pliny, the Roman historian, speaks of its use in ancient Rome and specifies the woods best suited for the purpose.

Constantinople still receives part of its water supply through wooden pipe, as it has for centuries, and bored-out elm logs were the only water mains in use in the city of London from 1582 to 1800, more than 400 miles of this pipe having been laid. Some of these logs are said to be still in use and during recent reconstruction work, were found to be quite sound.

Municipal water works had their beginning in this country at Boston, when the Water Works Company was incorporated in 1652. A reservoir was built to which the water was conveyed from springs through bored logs. It was also distributed through wooden pipes, and the system was used until 1796, at which time the aqueduct incorporation installed a new system of four mains of pitch pine logs, with four-inch and three-inch bore and wooden distributing pipes with 1½ inch bore. This second wooden pipe system supplied the city continuously until 1848.

The large pumps of the city water works at Manchester, New Hampshire, are operated by water-power supplied through a pen-stock of pine six feet in diameter and under a pressure of 40 feet. It was put down in 1874, and the superintendent, in answer to a recent inquiry, says: "We know nothing of its condition as it is laid six feet below the surface, and we have had no occasion to disturb it."

In 1799 the Manhattan Company was formed by Aaron Burr to supply the city of New York with water. It was carried through wooden pipes continuously until 1848, when the first Croton aqueduct was completed. Speaking of those old wooden pipes, the San Francisco Chronicle of September 3rd says: "Workmen on the conduits for the underground trolley line in Broadway, New York, have uncovered an interesting relic in the form of the wooden water pipes that were laid in 1784. The pipes were constructed from logs about the size of ordinary telegraph poles. The bore is about three inches in diameter. That the pipes are still serviceable is shown by the fact that the wood is decayed only to the depth of about half an inch from the outside surface. Otherwise the wood is perfectly sound."

The water supply of Philadelphia was at first conveyed entirely through bored pine and oak logs ranging in size from three to six inches inside diameter. In 1814, thirty-one miles of this pipe was in service, and it is said that some of this old wooden pipe is still in use.

The water works at Lynchburg, Va., were built in 1811. The mains were of bored pine logs 10 feet long, 10 inches in

diameter, with a 3-inch bore jointed with iron bands at the joints. In 1828 all but two lengths were taken up and replaced with larger mains. These two joints were found in 1868 while making sewer excavations, and they were still well preserved. They were secured by City Engineer Fosberg, but were stolen by negroes for fuel.

The water works at Detroit, Mich., were begun in 1827, and for many years the only pipe laid was of bored pine and tamarac logs. In 1850, there were 35 miles of wooden pipe in use, and only 4½ miles of iron pipe. In 1852, the use of wooden pipe was discontinued, but in 1857 its use was resumed because it was much cheaper and quite as satisfactory, its use being limited only by the small size of the logs. The laying of wooden pipe continued until 1881, when there were 84½ miles in service, considerable of which is still in use.

Denver, Colo., has nearly 100 miles of stave pipe conduit and mains in use, and has laid more the past season than ever before in one year. The first of this pipe was laid in 1883, being built from native pine, and is said to be in good condition. Most of the later lines have been built from redwood, although Texas pine has been used to some extent. All the water brought to Denver for domestic use passes through wooden pipe.

Toronto takes water from Lake Ontario, which is pumped to a reservoir. The works were built in 1841 and the water is brought to the pumping works through a wooden conduit 4 feet internal diameter, which is built from alternate pine and oak staves, banded with iron. This conduit has been in use 51 years and is still in good condition.

A far from complete investigation of the matter shows that there are to-day in this country more than 200 towns and villages using over 3,000 miles of wooden water pipe for domestic supply. It also shows that the use of wooden pipe is generally increasing in this country.

It is evident from a careful consideration of the subject that bored logs were displaced in the older water system of the Atlantic slope because of the demand for larger mains owing to the constant growth of the towns. There was never any question about the durability of wooden pipe, but there was at that time no adequate means of banding wooden pipe to withstand the high pressure required.

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A souvenir of the Galveston hurricane of September 8, 1900, has just reached New York in the shape of the British steamship Roma, of 1722 tons net, which was blown broadside on by the current, and swept through four bridges. Charles Clark & Co., who had floated six other steamships stranded by the hurricane, undertook to float the Roma, and she was sold to James Jerome, manager of the Saginaw Steamship Company of San Francisco. The wreckers dug a deep trench and floated the steamer. The Roma will be drydocked and overhauled whence she will double Cape Horn for the Pacific trade. Her owners, it is said, by expending three fourths of her cost in repairs, will be allowed to fly the American flag.

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